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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/840,232	05/07/2004	Yuuichi Ashibe	017700-0164	9695

22428 7590 09/19/2005

FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

MAYO III, WILLIAM H

ART UNIT	PAPER NUMBER
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2831

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/840,232

Applicant(s)

ASHIBE ET AL.

Examiner

William H. Mayo III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 05/07/04 & 11/30/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in present Application No. 10/840,232, filed on 05/07/2004.

Information Disclosure Statement

2. The information disclosure statements filed May 7, 2005 and November 30, 2004 have been submitted for consideration by the Office. They have been placed in the application file and the information referred to therein has been considered.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Rudolf (Pat Num DE 44 30 408). Rudolf discloses a joint structure of a superconducting cable (Figs 1-2) for usage with a consumer system (abstract). Specifically, with respect to claim 1, Rudolf discloses a joint structure (Fig 1, as interpreted by the translator) comprising an insulating spacer (18) having a central conductor (16), a superconducting

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cable (1) and a conductor connecting member (2) having one end (top end) and another end (bottom end), wherein one end (top end) has a sleeve shape and is connected to the central conductor (16) and the other end has a sleeve shape and is connected to the superconducting cable (1, Fig 2). With respect to claim 2, Rudolf discloses that the central conductor (16) of the insulating spacer (18) and the conducting connecting member (2) may be connected by a multi-contact connection (22 & 2). With respect to claim 3, Rudolf discloses that the central conductor (16) of the insulating spacer (18) and the conducting connecting member (2) is capable of being connected by friction welding (Col 5, lines 44-68). With respect to claim 4, Rudolf discloses that the central conductor (16) of the insulating spacer (18) is made of metal (i.e. aluminum alloy) having aluminum as its main body (Col 5, lines 55-68) and the conductor connecting member (2) is made of metal (i.e. copper) having copper as its main body (Col 4, lines 27-36). With respect to claim 5, Rudolf discloses a joint structure (Figs 1-2) comprising a superconducting cable (1), a long conductor (16) and a conductor connecting member (2) connecting the superconducting cable (1) and the long conductor (16), wherein the superconducting cable (1) includes a former (4) and a superconducting layer ($\text{Bi}_2\text{Ca}_2\text{SrCu}_2\text{O}_x$) provided on an outer periphery of the former (4), wherein an end of the former (4, top end) and the connecting member (2) are capable of being connected by pressure welding and wherein the superconducting layer ($\text{Bi}_2\text{Ca}_2\text{SrCu}_2\text{O}_x$) and conducting member (2) is capable of being connected by soldering (Col 5, lines 44-54). With respect to claim 6, Rudolf discloses that the long conductor (16) is a central conductor of an insulating spacer (18, Fig 2). With respect to claim 7, Rudolf discloses

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a joint structure (Figs 1-2) comprising a superconducting cable (1), a long conductor (16) and a conductor connecting member (2) connecting the superconducting cable (1) and the long conductor (16), an insulating spacer covering (22) covering the conductor connecting member (2), wherein a connecting portion (top portion) between the conductor connecting member (2) and the superconducting cable (1) is arranged inside a hollow tube (inside 4) that is provided at the core portion of the insulating spacer (22, Fig 2). With respect to claim 8, Rudolf discloses a connecting portion (top portion) between the conductor-connecting member (2) and the long conductor (16) is arranged inside a hollow tube (inside 16) that is provided at the core portion of the insulating spacer (22, Fig 2). With respect to claim 9, Rudolf discloses that the superconducting cable (1) has a central conductor (inside 4), wherein the central conductor (inside 4) of the superconducting cable (1) includes a superconducting layer ($\text{Bi}_2\text{Ca}_2\text{SrCu}_2\text{O}_x$). With respect to claim 10, Rudolf discloses an insulating spacer (18) having a central conductor (16) that is connected to a superconducting cable (1) via a conductor connecting member (2).

Conclusion


5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Yamaguchi (Pat Num 6,112,531), Sinha et al (Pub Num 2004/0211586), and Rasmussen (WO 02/029930 A3), all of which disclose normal conductor being terminated to superconducting cables.

Communication

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


William H. Mayo III
Primary Examiner
Art Unit 2831

WHM III
September 08, 2005